US005556164A

United States Patent [19]

Cindea et al.

[11] **Patent Number: 5,556,164**

[45] **Date of Patent: Sep. 17, 1996**

[54] **PEDESTAL SEAT**

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[21] Appl. No.: **321,797**

[22] Filed: **Oct. 12, 1994**

[51] **Int. Cl.**[6] **A47C 1/023**

[52] **U.S. Cl.** **297/344.22**; 297/423.38; 248/425

[58] **Field of Search** 297/344.22, 344.21, 297/423.38; 248/283, 425

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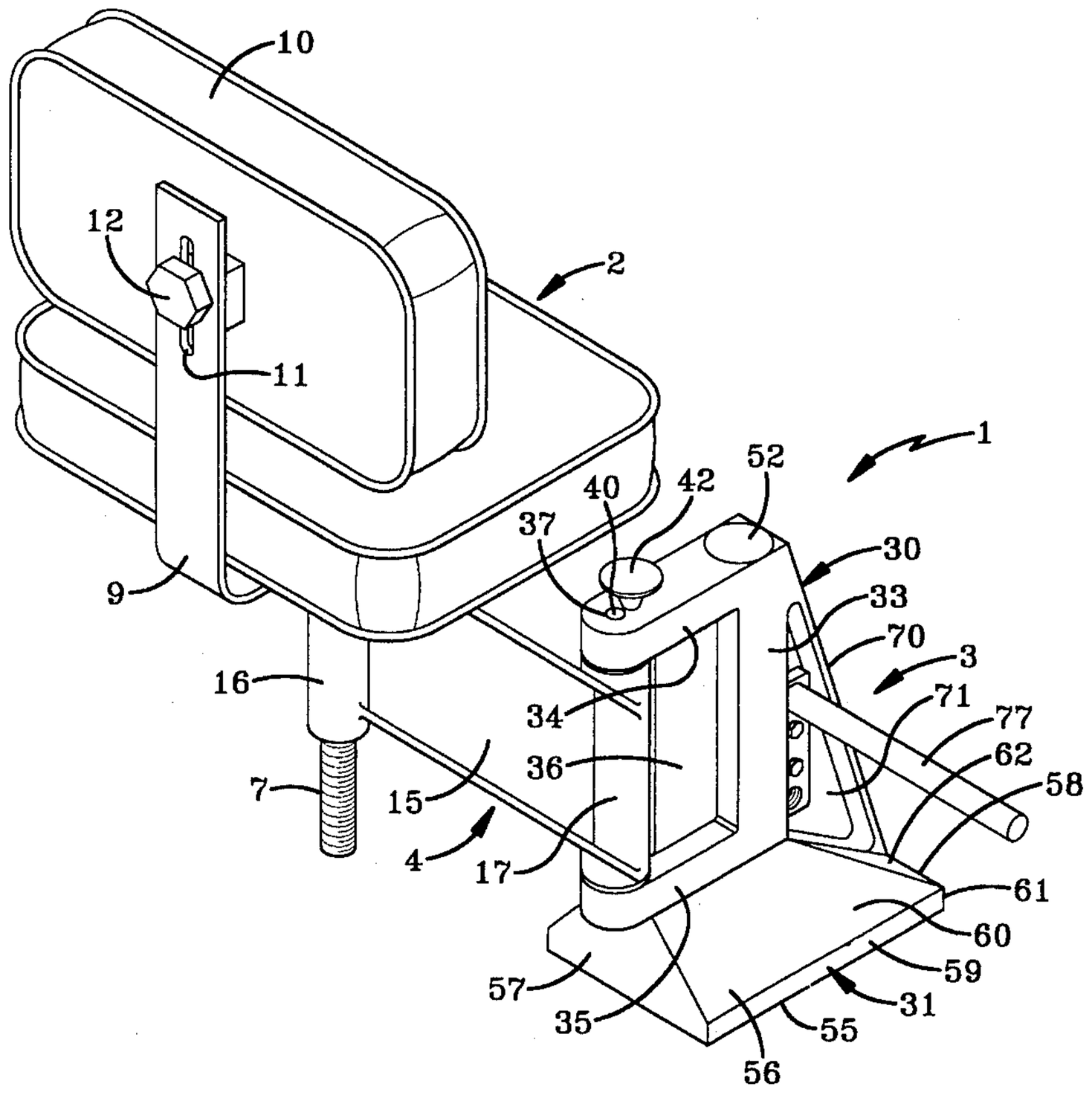
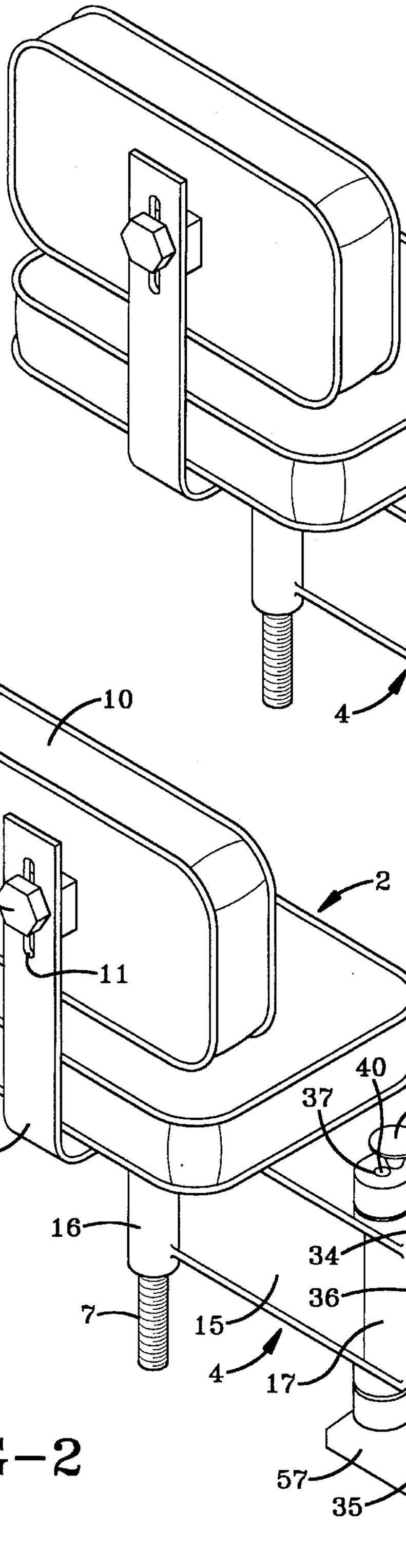
Primary Examiner—Peter M. Cuomo
Assistant Examiner—Anthony D. Barfield

[57] **ABSTRACT**

A pedestal seat for supporting the weight of a user at a work station includes a seat and a pedestal which is secured to the floor adjacent the work station, and a support arm pivotally mounted on the pedestal and connected to the seat. The pedestal includes a vertically extending column and a base integrally connected to the column. The base extends symmetrically outwardly on both sides of the column and a reinforcing flange extends between the top of the column and an end of the base with a reinforcing web of reduced material thickness extending between the flange and the column and base. A footrest is movably mounted on either side of the reinforcing web. The column is formed integrally with the base intermediate the sides, with the base and column being symmetrical about a vertical plane which passes through the center of the column. The base extending outwardly equally on both sides of the column, in combination with the reinforcing flange and web, combine to provide sufficient torsional stability such that the seat may be rotated either to the right or to the left of the base and column enabling the pedestal seat to be mounted either at the left or right of a work station.

16 Claims, 4 Drawing Sheets





FIG–1
PRIOR ART

FIG–2

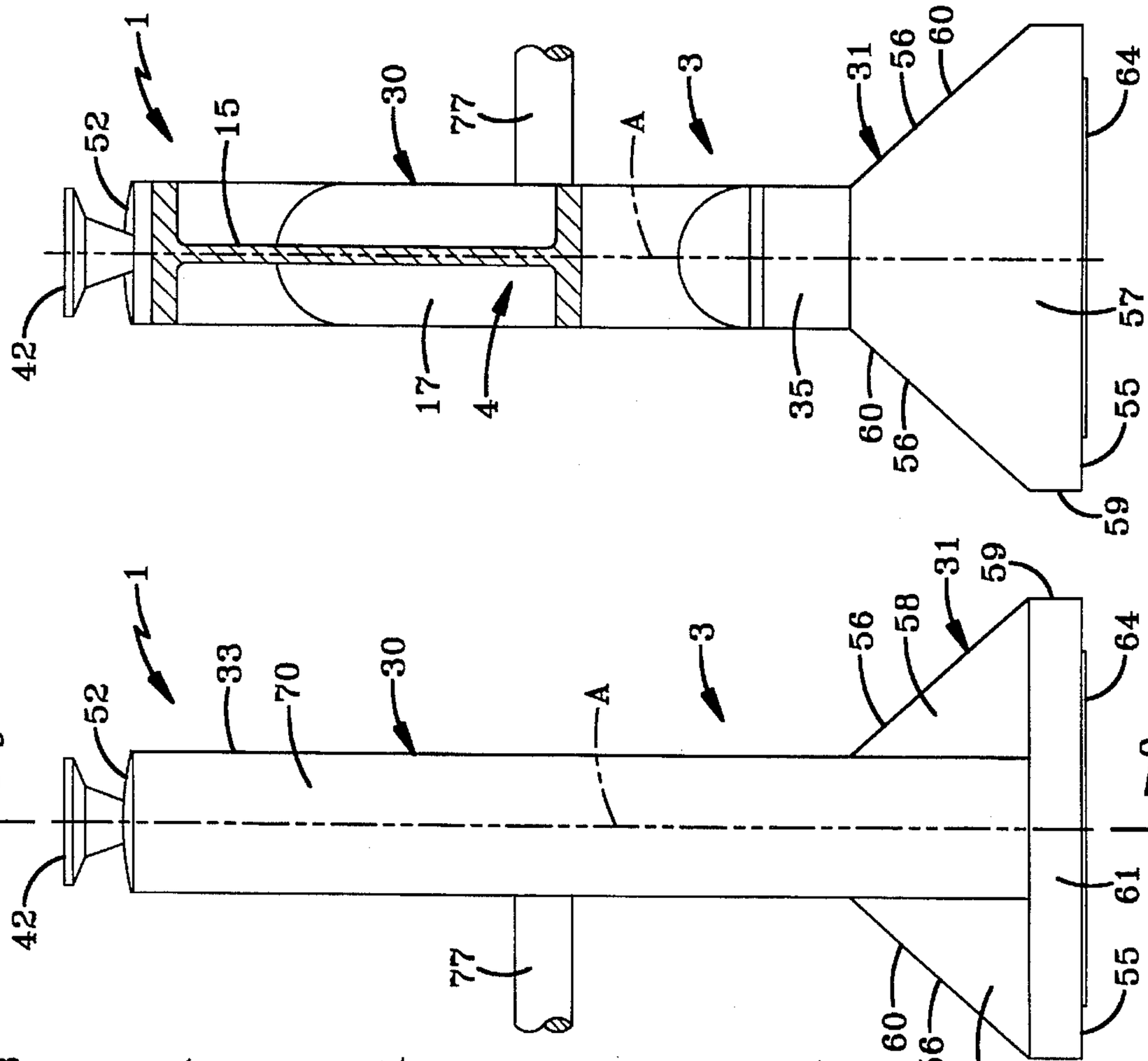


FIG-8

FIG-7

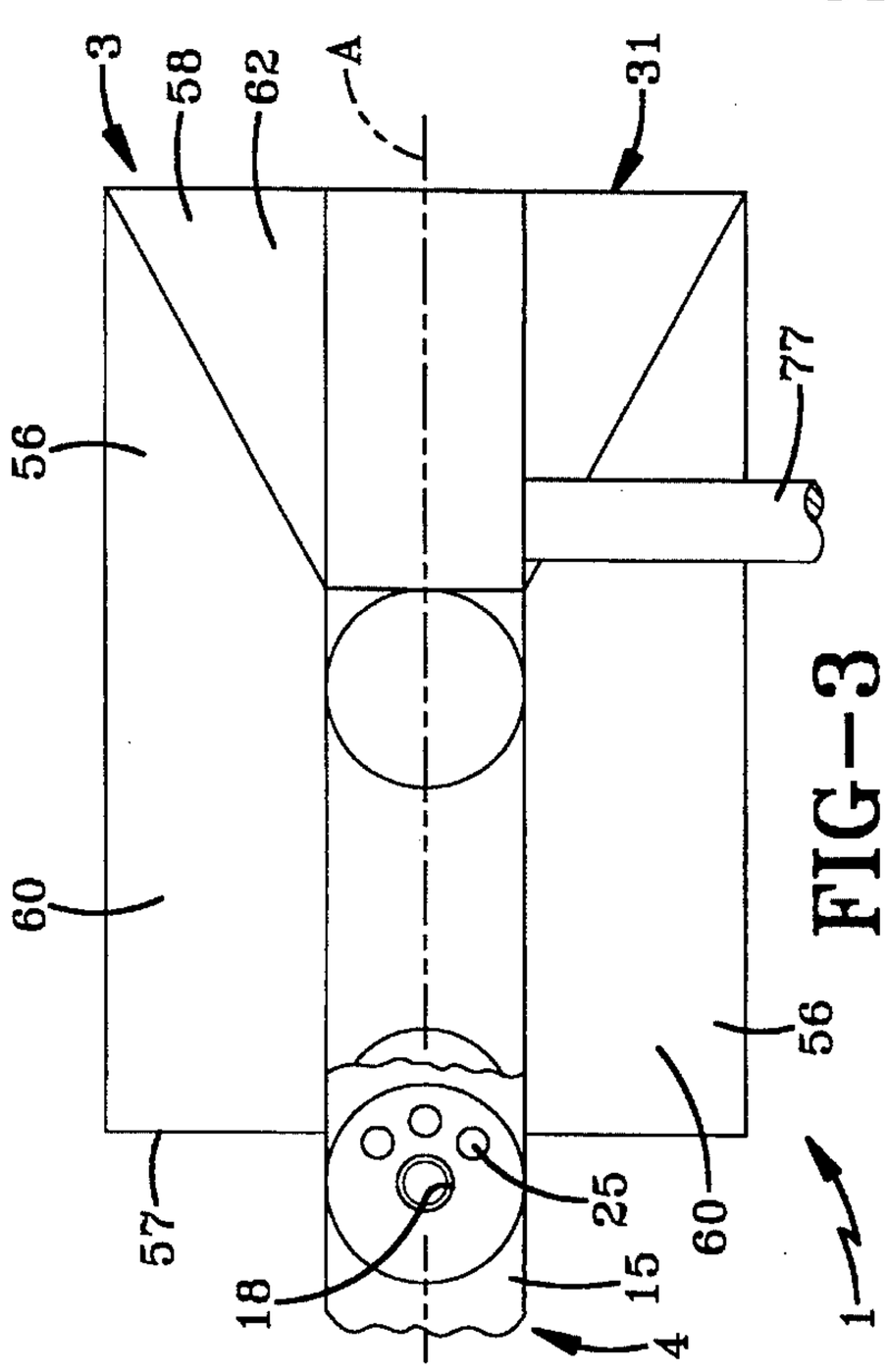


FIG-3

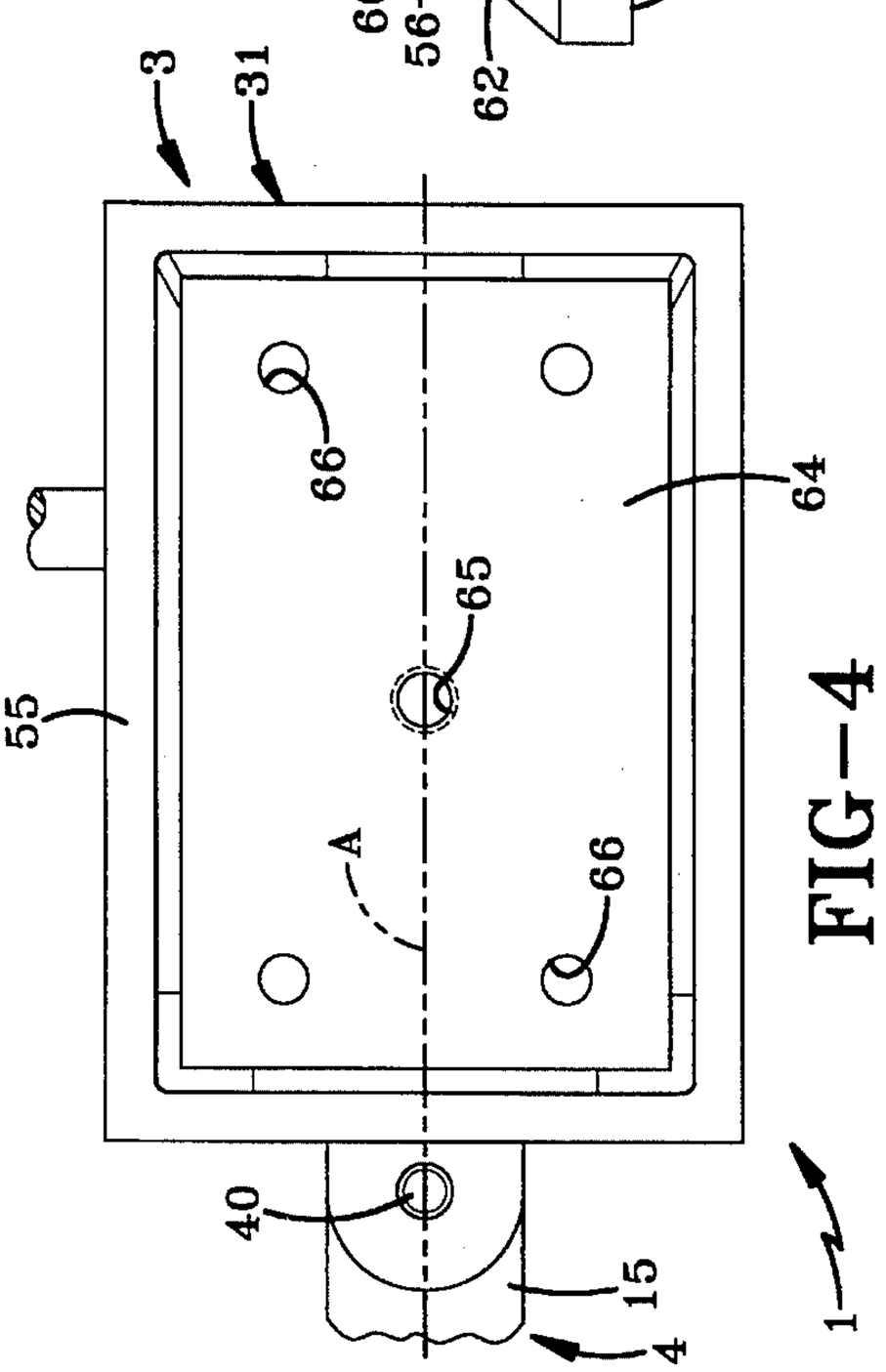


FIG-4

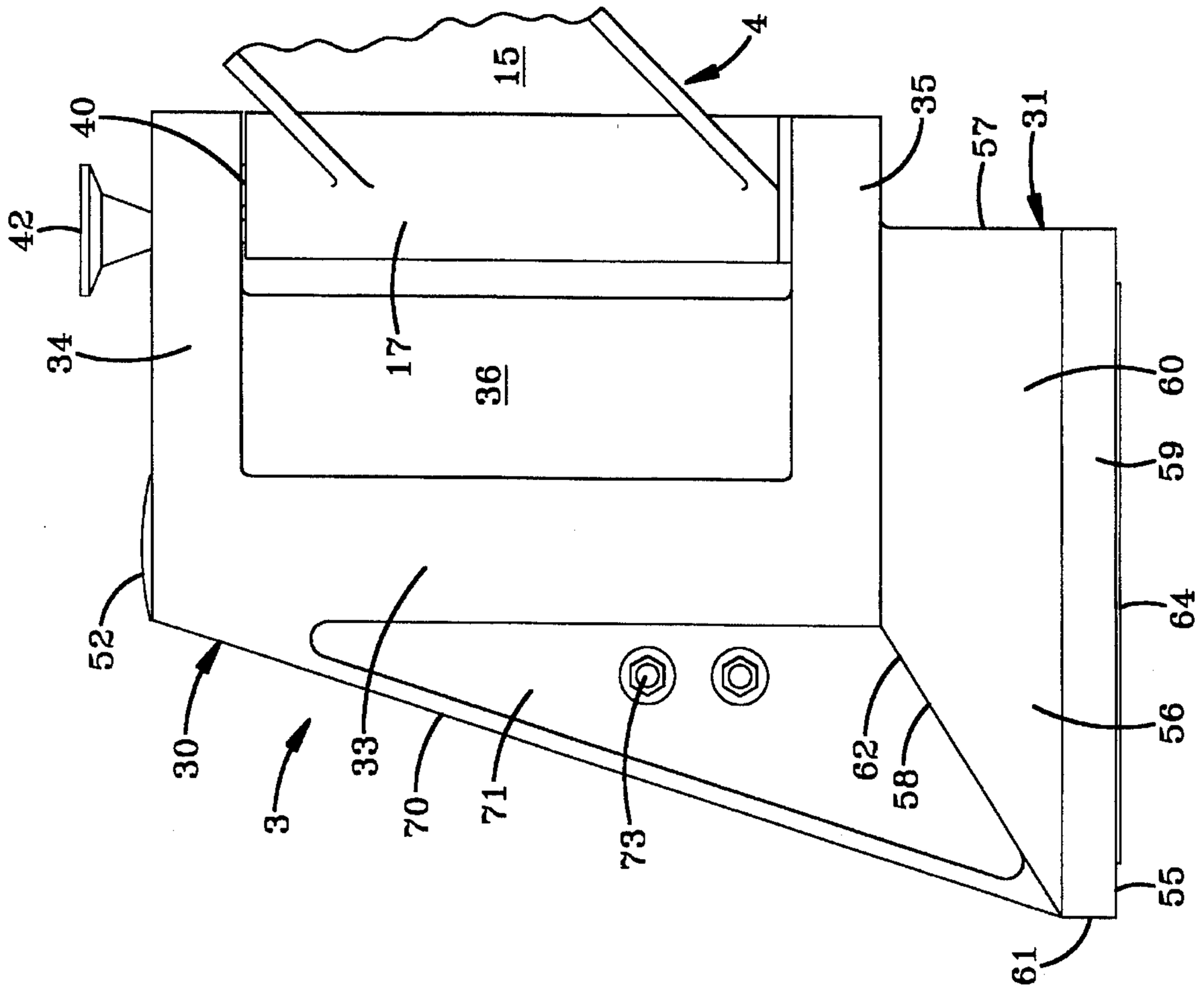

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FIG-6

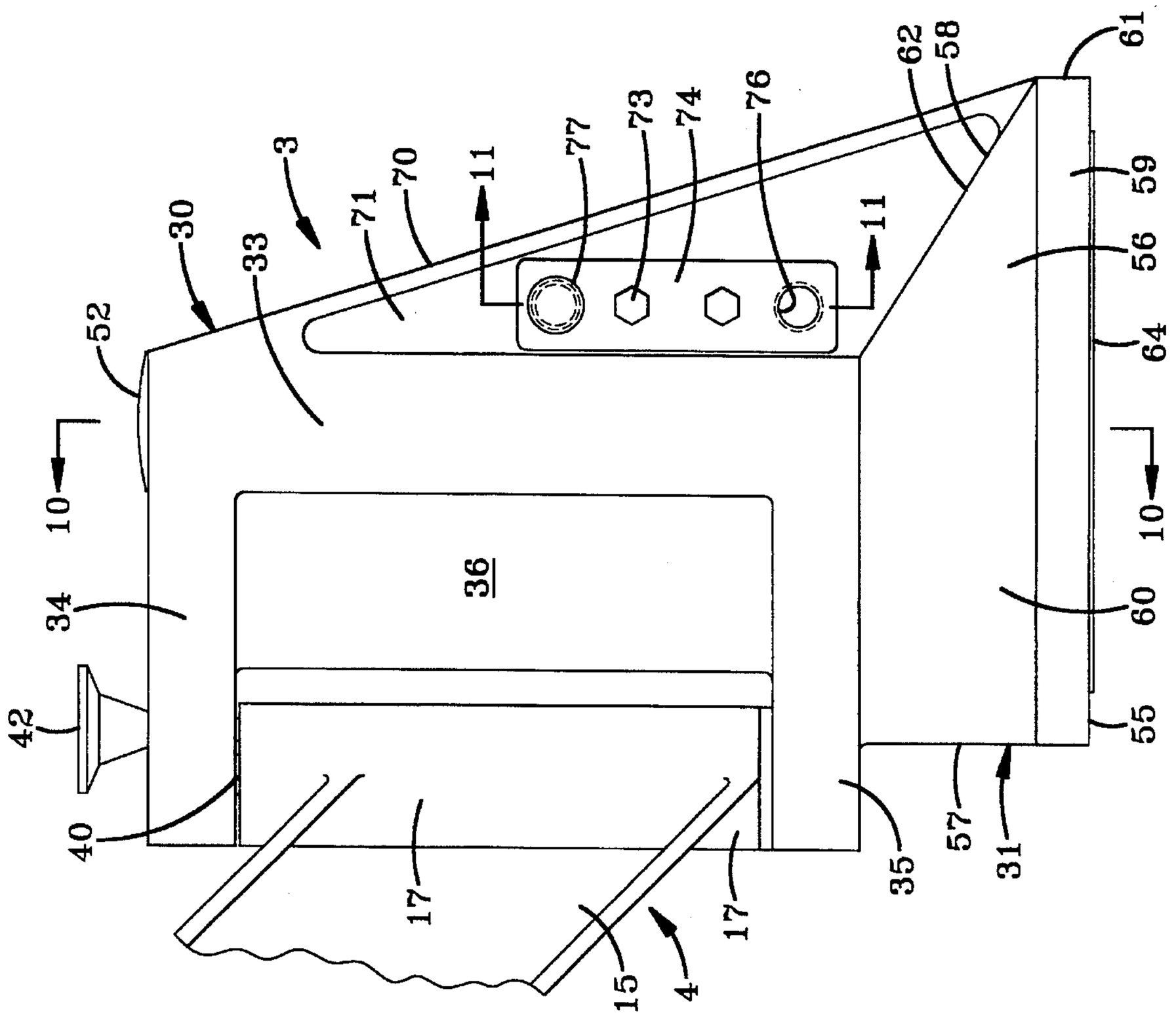
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FIG-5

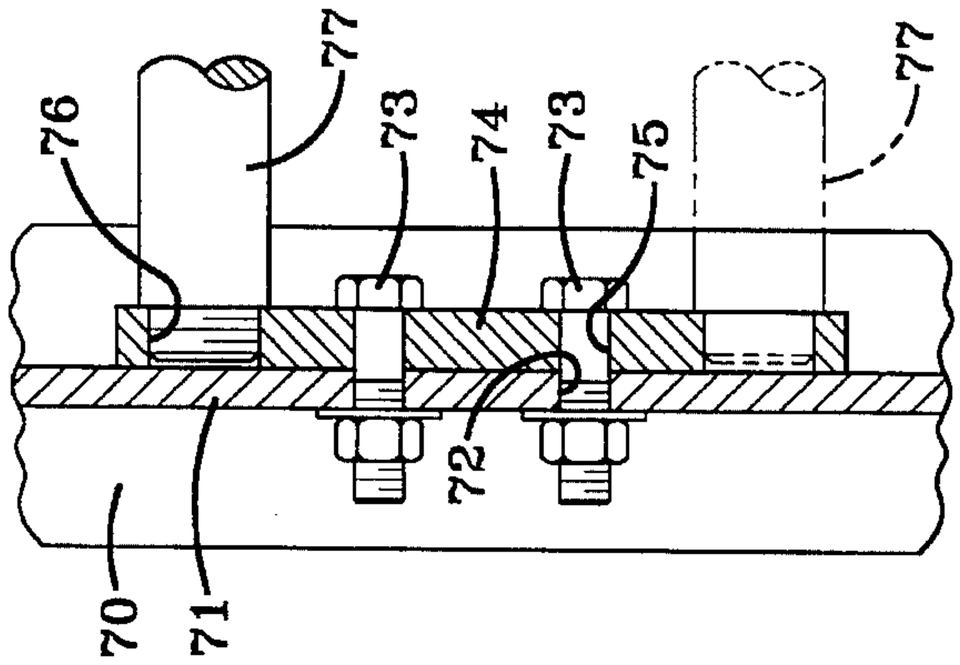

FIG-11

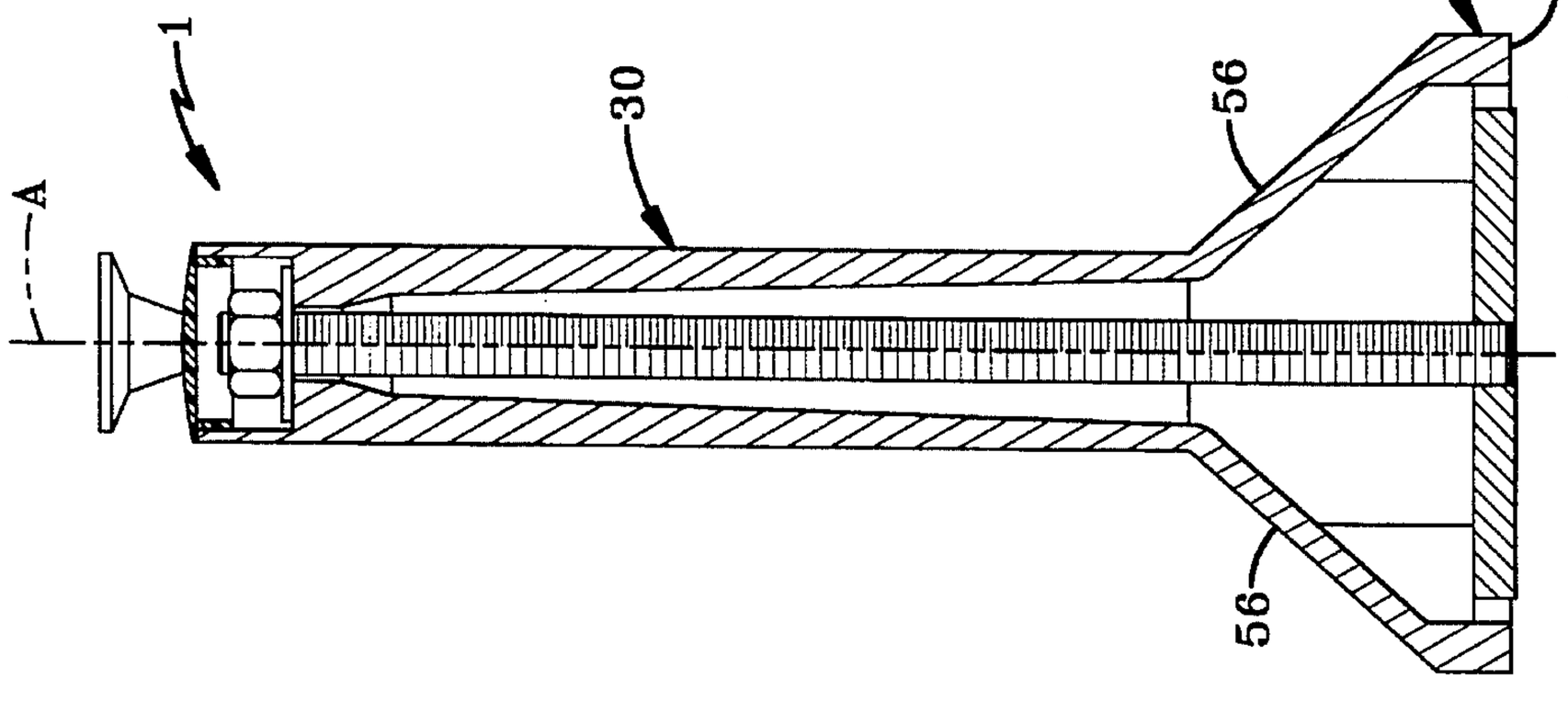

FIG-10

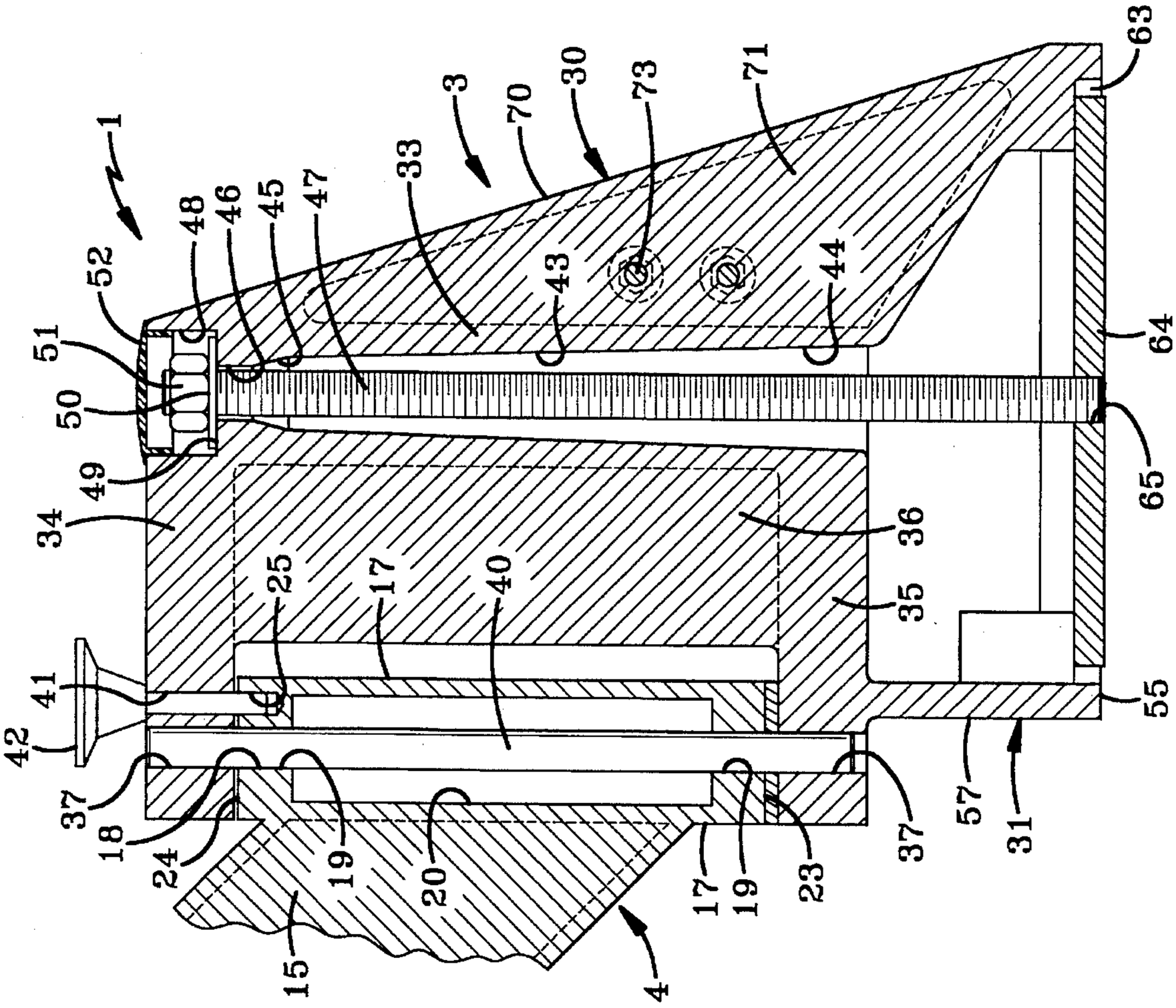

FIG-9

PEDESTAL SEAT

BACKGROUND OF THE INVENTION

1. Technical Field

The invention relates to commercial seating. More particularly, the invention relates to pedestal seating for use when an individual is required to alternately sit and stand during the performance of the duties associated with a job. Specifically, the invention relates to pedestal seats secured to the floor adjacent a counter for rotatably supporting a seat.

2. Background Information

Many individuals are required to alternatively sit and stand at the performance of duties associated with a job. Specifically, individuals that work as bank tellers, or workers at drive-up windows, toll and guard booth operators, and research laboratory technicians all alternatively stand and sit in the performance of their duties.

This constant movement between standing and sitting can create counter fatigue significantly reducing employee productivity. Moreover, the height disparity between standard seating and standard countertops creates additional problems for individuals working at these jobs. While elevating seating is available for use with these elevated countertops, they are prone to tipping, and are generally only usable with countertops in a relatively small height range.

Standard seating creates additional problems when used in this environment in that the individual must continually check for chair position before moving from the standing to the seated position further reducing the user's productivity.

To alleviate the problems discussed above, and to speak to the specific needs of workers in these environments, seats have been developed which are securely mounted to the floor of the work area adjacent the countertop to prevent the seat from moving as the user alternatively moves between standing and sitting positions. Moreover, these devices provide that the seat may be rotated about the pedestal base to a comfortable position, with that comfortable position then being locked to assure that the seat cannot move relative to the pedestal. In this manner, the position of the seat remains constant relative to the countertop to reduce the need for the user to continually check for the seat position as the user moves from the standing to the seated position. Additionally, existing seats may be adjusted to a comfortable height relative to the countertop and thus are usable with countertops and work stations having a wide range of sizes, heights and configurations. Existing pedestal seats solve many of the problems encountered by individuals frequently moving between standing and sitting positions in the performance of their duties. Moreover, existing pedestal seats have alleviated the need to stock a significant number of different seats for use with countertops having different heights, size and configurations.

While the above discussed pedestal seats are presumably adequate for the purpose for which they are intended, the manufacturer and supplier must still manufacture and stock a number of separate models in order to supply a seat for all mounting positions. Specifically, the existing pedestal style seats are right and left handed with one seat having a right hand mount pedestal and a chair that swings left, and another seat having a left hand mount pedestal with a chair that swings right. This design is presumably adequate for the purpose for which it was intended, but requires the manufacture to stock multiple style seats increasing overhead, as well as complicating the installation and ordering process.

Therefore, a need exists for a universal pedestal style seat in which a single pedestal may be mounted to the right or to the left of the final seat position, such that the single pedestal is used regardless of the seat's position relative to the countertop.

SUMMARY OF THE INVENTION

Objectives of the invention include providing a seat having a pedestal that is securely mounted to the floor.

A further objective is to provide such a pedestal seat in which the seat may be rotated relative to the pedestal to any convenient location relative to a countertop.

A still further objective is to provide such a pedestal seat where the pedestal may be mounted either to the right or to the left of the most convenient seat position.

Yet another objective of the invention is to provide such a pedestal seat in which the pedestal stabilizes the seat, when supporting the weight of the user, regardless of whether the pedestal is mounted to the right or to the left of the seat and seated user.

Yet another objective is to provide such a pedestal seat having a pedestal which provides rotational movement of the seat either to the right hand side, or left hand side of the pedestal.

Yet another objective is to provide such a pedestal seat in which the right and left side thereof are symmetrical about a vertical plane passing through the center of the pedestal.

A still further objective is to provide such a pedestal seat which is of a simple construction, which achieves the stated objectives in a simple, effective and inexpensive manner, and which solves problems and satisfies needs existing in the art.

These and other objectives and advantages of the invention are obtained by the improved pedestal seat, the general nature of which may be stated as including a pedestal having a base adapted to be attached to a support surface, and a column extending vertically upwardly from said base; a seat; a swing arm connected to the seat; pivot means for pivotally mounting the seat in a cantilever fashion on the pedestal by the swing arm; and said column and pivot means being located in a vertical plane which extends through a center of the base with said base being symmetrical about said plane, when the pedestal is attached to the support surface.

BRIEF DESCRIPTION OF THE DRAWINGS

A preferred embodiment of the invention, illustrative of the best mode in which applicants have contemplated applying the principles, is set forth in the following description and is shown in the drawings and is particularly and distinctly pointed out and set forth in the appended claims.

FIG. **1** is a perspective view of a prior art pedestal seat;

FIG. **2** is a perspective view of the pedestal seat of the present invention;

FIG, **3** is an enlarged fragmentary top view of the present invention with the seat and swing arm removed;

FIG. **4** is an enlarged fragmentary bottom view of FIG. **3**;

FIG. **5** is a fragmentary elevational view of one side of FIG. **3**;

FIG. **6** is a fragmentary elevational view of a second side of FIG. **3**;

FIG. **7** is an elevational view of one end of the present invention of FIG. **3**;

FIG. **8** is a second end elevational view of FIG. **3** with portions shown in section;

FIG. **9** is a sectional view taken substantially along line **9—9**, FIG. **7**;

FIG. **10** is a sectional view taken substantially along line **10—10** FIG. **5**; and

FIG. **11** is an enlarged fragmentary sectional view taken substantially along line **11—11**, FIG. **5**.

Similar numerals refer to similar parts throughout the drawings.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The pedestal seat of the present invention is indicated generally at **1**, and is shown particularly in FIG. **2**. Pedestal seat **1** includes as its main components a seat **2**, a pedestal **3** and a support or swing arm **4**.

Seat **2** (FIG. **2**) includes a cushion **6** with a threaded rod **7** extending outwardly from the bottom thereof. A back support bracket **9** is attached to the bottom surface of cushion **6**, and to a back support **10**. Back support bracket **9** includes an elongated slot **11** for slidably receiving a hand wheel **12** for providing adjustment of back support **10** relative to cushion **6**. While cushion **6** and back support **10** may take a variety of sizes and configurations, they are preferably rectangular, and are padded for the user's comfort.

Swing arm **4** includes a central beam **15** having one end terminating at a cylindrical top boss **16** for threadably receiving threaded rod **7** of seat **2** therein for adjusting the seat height. A lower end of central beam **15** terminates at a cylindrical mounting boss **17** which is formed with an axially extending bore **18** (FIG. **9**) with reduced diameter upper and lower end portions **19**, and a wider center portion **20**. Mounting boss **17** also includes an annular bottom surface **23**, and an annular top surface **24** which is formed with three blind holes **25** as shown in FIG. **3**, the purpose for which will be described in detail below. Both bosses **16** and **17** are welded to central beam **15** and are vertical and parallel with each other with central beam **15** extending obliquely therebetween.

In accordance with one of the main features of the invention, pedestal **3** includes a vertical column **30**, and a base **31**. Column **30** is integrally formed with base **31** at a lower end thereof. Column **30** has a reverse generally C-shape (FIGS. **2** and **9**) which includes a main vertical post **33**, and a pair of horizontal legs **34** and **35**. A web of reduced material thickness **36** extends between legs **34** and **35** and vertical post **33** to strengthen column **30**. The end of each leg **34** and **35** is formed with a through hole **37** (FIG. **9**), which holes are in axial alignment with holes **18** of mounting boss **17**. Axially aligned holes **18** and **37** receive a pivot pin **40**. Pivot pin **40** is interferencly fitted into holes **37** and slip fitted within holes **18** to provide rotational movement of swing arm **4** on pivot pin **40**.

Top leg **34** of column **30** includes a second through hole **41** (FIG. **9**) for receiving a lock pin **42** therein. Hole **41** will axially align with one of the three blind holes **25** depending on the rotated position of arm **4** relative to pedestal **3**. As swing arm **4** is rotated, each of the three blind holes **25** will move into and subsequently out of axial alignment with hole **41**. When the user has located a comfortable seat position, lock pin **42** is passed through hole **41** and into an aligned hole **25** to prevent further rotation of arm **4** relative to pedestal **3**.

Vertical post **33** (FIG. **9**) of column **30** includes a frustaconical aperture **43** having an enlarged bottom end **44** adjacent base **31**, and a smaller upper end **45**. An uppermost portion **46** of aperture **43** is cylindrical and nearly identical to, but slightly larger than, the diameter of a threaded bolt **47**. An upper hole **48** is formed at the juncture of post **33** and top leg **34** and joins with portion **46** at a shoulder **49**. Bolt **47** extends through uppermost portion **46** and into upper hole **48** and receives a washer **50** and nut **51** thereon. A plastic cap **52** frictionally engages the interior of upper hole **48** to conceal bolt **47**, washer **50** and nut **51**.

In further accordance with one of the main features of the present invention, base **31** is symmetrical about a vertical plane A which passes through column **30** and base **31**. Base **31** is hollow and includes a peripheral bottom wall **55**, a pair of tapered sidewalls **56**, a first end wall **57** and a second end wall **58**, such that base **31** has a substantially triangular cross-section transverse to plane A (FIGS. **2** and **9**). Each sidewall **56** is formed with a vertical bottom edge portion **59** adjacent bottom wall **55**, and an inclined upper portion **60** extending upwardly from vertical portion **59** and inwardly toward column **30**. Similarly, second end wall **58** includes a vertical bottom portion **61**, and an inclined portion **62** extending upwardly from vertical portion **61** and inwardly toward column **30**. First end wall **57** differs from second end wall **58** and sidewalls **56** in that it is substantially vertical and does not include an inclined portion and extends transverse to plane A. Pedestal **3** is a one-piece member with column **30** being formed integrally with base **31**, and column **30** cantilevers over and extends beyond end wall **57**.

Bottom wall **55** of base **31** forms a rectangular shaped opening **63** in which is mounted a complementary shaped mounting plate **64**. Plate **64** is formed with four mounting holes **66** (FIG. **4**) for attaching the plate and base **31** to the floor by bolts or other convenient attachment means. Bolt **47** threadably engages mounting base **64** at a central threaded hole **65** (FIGS. **4** and **9**) and when nut **51** is tightened securely clamps pedestal **3** on mounting plate **64** and a support surface.

In accordance with another main feature of the present invention, column **30** is further connected to base **31** by a generally triangular shaped reinforcement member which includes a reinforcing flange **70** and a web **71**. Flange **70** is formed integrally with column **30** and base **31** and inclines upwardly away from second end wall **58** of base **31** toward leg **34** of column **30** for adding strength to pedestal **3**. Web **71** of reduced material thickness extends between flange **70**, vertical post **33** and second end wall **58**. Plane A also extends through the center of flange **70** and web **71** to provide the desired symmetry.

Referring to FIG. **11**, web **71** is formed with a pair of holes **72**, and a rectangular footrest mounting plate **74** which is formed with a pair of holes **75** that align with holes **72**. Plate **74** is bolted to web **71** by a pair of bolts **73** which extend through aligned holes **72** and **75** to secure the mounting plate to web **71**. Mounting plate **74** is also formed with a pair of threaded holes **76**, each of which is sized to receive a threaded end of a footrest bar **77**. Footrest bar **77** may be conveniently positioned in either of the threaded holes **76** to customize the height of footrest bar **77** to the specific user. Mounting plate **74** can be mounted on either side of web **71** to provide a footrest bar **77** on either side of pedestal **3** depending upon the position of pedestal seat **1** with respect to a work station.

The symmetry of pedestal **3** reduces the rotational moment of seat **2** about pedestal **3** whether the seat is

positioned on the right side or left side of pedestal **3**. The inclined portions **60** of sidewalls **56** significantly reduce the rotational moment by reducing the lever arm through which the user's weight acts, and thus significantly reduces the force on pedestal **3**. Inasmuch as each sidewall **56** is inclined outwardly in a symmetrical manner from column **30** of pedestal **3**, the seat may be positioned on either side of column **30** while maintaining a constant, reduced, rotational moment about base **31**.

Additionally, reinforcing flange **70** and web **71** extend outwardly and downwardly from top leg **34** of column **30** toward second end wall **58** of base **31** to transfer the cantilever force acting on column **30** to base **31**, and subsequently to the floor on which pedestal seat **1** is mounted. As such, the combination of flange **70**, and web **71** with symmetrical base **31** which extends equally outwardly on either side of plane A, combine to create a pedestal which permits the seat to be positioned on either the right side or the left side of the pedestal without creating unsafe torsional forces thereon.

If seat **2** is positioned on the right side of pedestal **3**, then footrest bar **77** is installed in the position shown in FIG. **2**. However, if seat **2** is rotated to the left hand side of pedestal **3**, then bolts **73** can be removed from holes **72**, and mounting plate **74** and associated footrest bar **77** is moved to the opposite side of web **71**. Thereafter, bolts **73** are reinserted into axially aligned holes **72** and **75** to resecure mounting plate **74** to web **71**. In this manner, both the seat and the footrest may be positioned on either side of pedestal **3** without the need for stocking right handed and left handed pedestals.

Seat **2** is rotated about pedestal **3** via the rotational engagement of pin **40** and mounting boss **17**. Once chair **2** has been rotated to the selected position, lock pin **42** is dropped through hole **41** and into one of the appropriately aligned holes **25** formed in mounting boss **17**.

Referring to the prior art pedestal seat **80** shown generally in FIG. **1**, pedestal seat **80** includes a seat **2** and support arm **4** identical to seat **2** and support arm **4** of the present invention. However, pedestal seat **80** includes a pedestal **81** which differs significantly from pedestal **3** of the present invention. Pedestal **81** includes a bottom wall **82**, and a first end **83** and a first side **84** extending vertically upwardly from bottom wall **82**. A second end **83**A and second side **85** each include a vertical portion **86** and an inclined portion **87** inclined upwardly from vertical portion **86** toward an upper portion **88**. Prior art pedestal seat **80** does not include a reinforcing flange **70** and associated web **71** as does pedestal **3**. Most significantly, pedestal **81** is not symmetrical about a vertical plane which passes through the center of the support column as in the present invention. This prevents the pedestal seat from being used both in a right and left hand mounting arrangement.

A review of the prior art shows that when chair **2** is positioned on the same side of pedestal **81** as inclined portion **87** of second side **85**, then the rotational moment created by the user's weight on seat **2** will be reduced. However, if seat **2** is rotated outwardly and over the vertical first side **81**, the user's weight will create an unsafe torsional moment about pedestal **81**. The prior art pedestal seat **80** thus requires the use of two separate pedestals **81**, a first pedestal for right hand mounted left swing seats, and a second pedestal for left hand mounted right swing seats. The present invention successfully obviates the need for the use of separate pedestals for specific mounting environments.

In summary, pedestal seat **1** may be used when the pedestal **3** is left mounted and seat **2** swings right, as well as when pedestal **3** is right mounted and seat **2** swings left. This is accomplished via the symmetrical sides of the base which incline upwardly and inwardly from bottom wall **55** as well as from the additional torsional support added by reinforcing flange **70** and web **71**. Again base **31**, column **30**, reinforcing flange **70** and web **71** are symmetrical with respect to vertical plane A which passes through the center of column **30**.

In the preferred embodiment, base **31** and in particular rectangular bottom wall **55**, will have a width of approximately ¾ the height of column **30**, which height is approximately equal to the length of base **31**.

Accordingly, the improved pedestal seat provides an effective, safe, inexpensive, and efficient device which achieves all of the enumerated objectives, provides for eliminating difficulties encountered with prior devices, and solves problems and obtains new results in the art.

In the foregoing description, certain terms have been used for brevity, clearness and understanding; but no unnecessary limitations are to be implied therefrom beyond the requirement of the prior art, because such terms are used for descriptive purposes and are intended to be broadly construed.

Moreover, the description and illustration of the invention is by way of example, and the scope of the invention is not limited to the exact details shown or described.

Having now described the features, discoveries and principles of the invention, the manner in which the improved pedestal seat is constructed and used, the characteristics of the construction, and the advantages, new and useful results obtained; the new and useful structures, devices, elements, arrangements, parts and combinations, are set forth in the appended claims.

We claim:

1. A pedestal seat including:

a pedestal having a base adapted to be attached to a support surface, and a column extending vertically upwardly from said base;

the base having a pair of ends whereby one of the base ends is inclined outwardly and downwardly from the column;

a seat;

a swing arm connected to the seat;

pivot means for pivotally mounting the seat in a cantilever fashion on the pedestal by the swing arm;

said column and pivot means being located in a vertical plane which extends through a center of the base with said base being symmetrical about said plane, when the pedestal is attached to the support surface;

a reinforcing flange extends between said one base end and the column and is located in the plane and

the column extending beyond an end of the base along said vertical plane.

2. The pedestal seat defined in claim **1** in which one of the base ends extends substantially vertically in a plane transverse to the vertical plane of the column.

3. The pedestal seat including:

a pedestal having a base adapted to be attached to a support surface, and a column extending vertically upwardly from said base;

a seat;

a swing arm connected to the seat;

pivot means for pivotally mounting the seat in a cantilever fashion on the pedestal of the swing arm;

said column and pivot means being located in a vertical plane which extends through a center of the base with said base being symmetrical about said plane, when the pedestal is attached to the support surface;

the base having a pair of sides inclined outwardly and downwardly from the column, and a pair of ends whereby one of the base ends is inclined outwardly and downwardly from the column; and

a reinforcing flange extends between said one base end and the column and is located in said plane.

4. The pedestal seat defined in claim **3** in which a first reinforcing web extends between the reinforcing flange and column.

5. The pedestal seat defined in claim **4** in which the pivot means is located at a first end of the column; and in which the reinforcing flange and the first reinforcing web form a generally triangular shaped reinforcing member which connects a second end of the column located opposite of said first end, to the base.

6. The pedestal seat defined in claim **5** in which the width of the reinforcing flange is substantially equal to the width of the column.

7. The pedestal seat defined in claim **4** including a footrest mounted on the first reinforcing web.

8. The pedestal seat defined in claim **7** in which the footrest includes a mounting plate; in which the first reinforcing web is formed with a plurality of holes which extend between opposite sides of said first reinforcing web; and in which fasteners extend through said web holes to removably selectively mount the footrest plate on either side of said first reinforcing web.

9. The pedestal seat defined in claim **8** in which the mounting plate is formed with spaced holes; and in which a footrest bar is secured in a selected one of said spaced holes and extends outwardly therefrom to adjustably position the footrest bar on the column.

10. The pedestal seat defined in claim **3** in which the column is substantially C-shaped and includes spaced top and bottom legs and a connecting vertical end post; and in which the reinforcing flange extends in an outwardly downwardly inclined fashion from the top leg of the column to the base.

11. The pedestal seat defined in claim **10** in which a second reinforcing web extends between the spaced column legs and end post.

12. The pedestal seat defined in claim **10** in which the pivot means extends between the spaced column legs at an opposite end of the column from the reinforcing flange; in which a plurality of seat adjustment holes are formed in the top leg of the column adjacent the pivot means; and in which a lock pin extends through a selective one of said holes and into engagement with the pivot means to lock the seat and swing arm in a selected position.

13. The pedestal seat defined in claim **12** in which one of the seat adjustment holes is located in the vertical plane of the column; and in which certain others of said adjustment holes are located on opposite sides of said plane.

14. The pedestal seat defined in claim **10** in which the pivot means includes a vertical pin fixedly mounted in the spaced column legs and located in the vertical plane of the column.

15. The pedestal seat defined in claim **3** in which the sides and ends of the base form terminates in a rectangular bottom peripheral wall; in which the width of said bottom wall is approximately ¾ the height of the column; and in which the length of said bottom wall is substantially equal to the height of the column.

16. The pedestal seat defined in claim **3** in which the base and column is an integral one-piece member.

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